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THE AGRICULTURAL DEVELOPMENT BANK OF THE DOMINICAN REPUBLIC: A LOAN REPAYMENT ANALYSIS

by

Nelson A. Aguilera,

Claudio Gonzalez-Vega,

and

Douglas H. Graham

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Agricultural Finance Program
Department of Agricultural Economics
and
Rural Sociology
The Ohio State University
2120 Fyffe Road
Columbus, Ohio 43210-1099

Abstract

The Agricultural Development Bank of the Dominican Republic has experienced liquidity shortages in the 1980s, in part due to the growth of its non-performing portfolio. This paper documents the results of a field survey on the repayment status of a sample of loans granted in 1987. In order to overcome deficiencies in the bank's measures of delinquency, the performance of 3,455 sample loans was tracked over two years, focusing on installment arrears, rescheduling, and default. Repayment performance was related to borrower and loan contract characteristics, in order to generate a profile of the delinquent portfolio. These features included type of borrower, land tenure, type of investment, source of funds, and collateral. Approximately 72 percent of the number and 57 percent of the volume of loans had experienced some type of repayment problem. Marketing difficulties were identified as an important source of arrears, suggesting a role for "bridge loans." Recommendations are offered on how to improve the bank's viability.

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SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. Introduction

The Banco Agricola de la Republica Dominicana (BAGRICOLA) has experienced major liquidity shortages and operational losses during the late 1980s. An important factor behind these developments, compromising the financial viability of the bank, has been the growth of its non-performing (delinquent) portfolio. This report focuses on this issue, by documenting the results of an extensive field survey on the repayment status of a sample of loans disbursed in 1987. From these results, recommendations are presented to support Banco Agricola officials in their current efforts to reform internal operational procedures, in order to gain greater viability for the future.

Past efforts to measure default and delinquency in Banco Agricola have been misleading. The true state of default and delinquency has been seriously underestimated through the use of an inappropriate index of default. The bank has typically presented loans in arrears over total loans outstanding. This ratio has declined from 21 percent in 1983 to 6.9 percent in 1988. This is not consistent with the serious delinquency problems faced by the bank, indicating there are important deficiencies in this measure. First, only loans that have completed their full term and are in default have been classified as past due. All the remaining medium and long-term loans that have yet to complete their term have been

excluded, even if a significant proportion of the on-going installment payments has been in arrears. Second, total loans outstanding includes a substantial injection of new long-term loans granted in recent years, a large proportion of whose volume is not yet due. When the bank reports the ratio of arrears over total loans outstanding as a default index, therefore, it is inadvertently hiding potentially serious default problems. Put differently, delinquency and default ratios should be based on the volume of arrears over the relevant portfolio that has already fallen due, including delinquent installments. It makes no sense to include in the denominator loan amounts that are not yet due. Furthermore, many delinquent loans have been rescheduled by BAGRICOLA and have been thereby classified as current (i.e., without arrears). This also hides the actual extent of the repayment problem, since these loans already show signs of non-performance.

II. Design of the Default and Arrears Study

To address this problem, the Ohio State University team drew a random sample of all loans disbursed in 1987 and tracked their performance over the succeeding two years (up to the end of August, 1989). The random sample of 3,455 loan dossiers from 18 representative branches amounted to approximately 9 percent of the total number of loan applications in 1987. Of this total, 569 applications had been rejected, 538 had been withdrawn by the loan applicants, and 2,251 had been finally approved by the bank.

In addition, the repayment status of these loans (as of August 31, 1989) disbursed in 1987 was classified according to six categories:

(1) complete or partial default (vencido), if the total loan or some installments of longer term loans were unpaid 30 days after the due date. Since a considerable number of these loans had already completed their term maturity by August, 1989, one can refer to this category as representing hardcore default;

(2) in litigation, if unpaid loans (or installments) were subject to legal collection procedures;

(3) rescheduled, if the repayment period of the loan had been extended without altering the sum of principal and interest outstanding;

(4) paid with arrears, for loans with completed term maturity, if the loan or installments had been paid later than 30 days after the due date;

(5) current, if loans or installments were not yet due; and

(6) paid without arrears, if loans or installments had been paid within 30 days of the due date.

Defaulting loans are just one dimension of the loan repayment problems faced by the institution in recent years. Installment arrears and the rescheduling of outstanding loans constitute another important dimension of the repayment problems faced by the bank. Hence, any meaningful analysis of the repayment performance of outstanding loans disbursed by development institutions must examine the incidence of rescheduling and installment arrears, as well.

III. Profile of the Delinquent Portfolio

The effects of different borrower and loan contract characteristics on loan repayment performance are reviewed, according to several cross-classified variables with loan repayment. Detailed loan repayment status is reported for the number and volume of loans granted by type of borrower, land tenure, type of investment, source of funds, and type of collateral.

It was discovered, in adding up the four categories of default and arrears (1) through (4), that approximately 72 percent of the number of loans granted in 1987, and 57 percent of the volume disbursed, had experienced some type of default or arrears. Finally, it is pertinent to underscore the fact that 45 percent of the total sample of loans, accounting for 20 percent of the volume disbursed, fell into the hardcore default category (vencido). The costs of recovering these loans, many of which had completed their term in default, would be high and the results problematical. It is now easier to understand why the bank has been experiencing liquidity problems and generating operational losses. The inability to secure reasonable loan repayments restricts the funding base for new loans (i.e., the liquidity problem), while the lack of interest earnings from defaulted loans and collection costs contribute to operational losses.

(1) Default by Type of Borrower, Tenancy, and Collateral

The results for specific borrowers and loan characteristics are revealing. Except when indicated otherwise, this summary's comments will focus on hard core default (category one). Fifty-seven (57) percent of the individual agrarian reform borrowers were in default, compared to 41 percent for agrarian reform associations. Private individual (non-reform)

borrowers, however, also registered a high default rate (42 percent). Only non-reform associations recorded a substantially lower level of default (22 percent).

Borrowers with all forms of land tenure recorded fairly high levels of default. It is of interest to note, however, that tenants (renters, sharecroppers, and others) recorded a lower default rate (33 percent of their number) than individual private owners (41 percent) and individual occupants without title on state lands (42 percent). Individual land ownership does not necessarily lead, therefore, to lower default, although individual agrarian reform beneficiaries showed the highest default indexes (57 percent of their number). This latter set of borrowers clearly represents a high risk, adverse clientele for the bank's viability.

The fact that individual owner-cultivators registered higher default rates than tenants suggests that mortgages do not play a role in ensuring sound loan repayment behavior. This may be due to the fact that mortgages are rarely used as a form of collateral by the bank. Mortgages and the equally secure pignoraticia guarantee (inventory under control of the bank) comprised less than two percent of the collateral used in the sample of 2,251 loans. Prenda guarantees (crop or livestock lien pledges) accounted for 98 percent of the collateral in the sample and these pledges are clearly weak guarantees, since they tend to disappear in case of difficulties or are simply insufficient. Until the bank changes its predominant form of guarantee, collateral will never be able to be used as an instrument to induce responsible loan repayment. Given the large proportion of land reform beneficiaries and of borrowers without title in the portfolio, this may not be a feasible path and other mechanisms to ensure portfolio performance must be found.

(2). Default by Loan Use

Livestock activities rank high as default-prone loans, with 57 percent of these borrowers classified in hardcore default. This largely grows out of the government-funded small livestock program. Machinery and equipment loans also rank high, with 47 percent of their number in default. The most interesting finding in the default profile by enterprise type, however, is in relation to industrial food crops and agricultural export crops. These activities registered relatively small levels of hard core default both in terms of numbers of loans (26 and 24 percent, respectively), and of the volume of loans disbursed (7 and 16 percent, respectively). Nevertheless, both these activities registered high levels of loans paid with arrears (39 percent of the number of industrial food crop loans and 29 percent of the number of agricultural export loans). These percentages were even higher for the volume of loans paid with arrears (81 and 54 percent respectively).

This underscores the role that marketing problems play in compromising the bank's portfolio with arrears. These industrial food crop producers of tomatoes, pineapple, melons, and sorghum sell their crops to processors, who then delay payment to the farmers until after their product has been sold successfully down the marketing chain. Consequently, the farmers fall into late payments (arrears) to the bank. It is important to note, however, that these borrowers do in fact end up repaying a large proportion of their debt obligations to Banco Agricola, as seen in the relatively low hardcore default index for these borrowers.

This raises the question of whether bridge loans to these processor intermediaries might not help alleviate this problem. On the one hand, the bank could reduce the liquidity constraints facing these processor-marketers by granting them short-term loans, which in

turn could allow them to pay their farmer suppliers on time. This would then allow these farm borrowers to repay the bank more promptly. On the other hand, the bank could grant loans to processors not only to cover their liquidity shortfall to purchase farm output, but an additional amount to in turn pass on as production loans to the farm suppliers they have contracted into their network. This would relieve the bank from the transaction costs of administering a large number of small farm loans and facilitate prompt repayment.

These options, however, are based on the premise that the processor and exporter intermediaries would be responsible clients and the bank would behave as a disciplined lender effectively monitoring and collecting its loans. One suspects that in the past the processors have taken advantage of their farm supplier clientele to command a liquidity leverage for their own use through delayed payments. They would be inclined to do the same to BAGRICOLA if the bank's image as a lax loan collector is not improved. Therefore, any new policy emphasizing bridge loans to farmers though processor-intermediaries and exporters should not only anticipate the savings in transaction costs implicit in this approach, but also evaluate the risk of poor loan repayment from the intermediaries themselves.

(3) Loan Default by Source of Funds

The other major finding in these default statistics relates to the source of funding. As noted earlier, government-sourced loans to small livestock pig producers and agrarian reform beneficiaries registered very high levels of default (64 percent and 41 percent of the number of loans, respectively). The international source FIDA funds also registered high default rates (74 percent of the number of loans). Other loans from international sources

(IDB, AID, and World Bank) fell in between, with still relatively high rates of hardcore default (33 percent of the number of loans). At the other extreme are the remarkably low hardcore default rates for loans made from locally mobilized deposits (4 percent).

It is clear that the bank is much more careful in loan evaluation for deposit-based loans. On the other hand, government and international sourced funds are associated with targeted loans directed to a higher risk and more default-prone clientele with predictable, negative consequences.

Another interesting finding relates to the contrast between World Bank and IDB loans, on the one hand, and USAID loans, on the other hand. The former registered high hardcore default rates (45 percent of the volume of World Bank loans and 38 percent of the volume of IDB loans disbursed), while the USAID program registered low hardcore default (5 percent of the volume). It is pertinent to note that World Bank and IDB loan funds are targeted to specific clientele, that in the end turned out to be default-prone customers. Many of the IDB loans were targeted to new customers, which introduced higher risks than clientele already known to bank personnel. Also, highly default-prone livestock loans were targeted into the IDB portfolio. The World Bank loans were targeted to cacao and coffee export farmers, who were unfortunately experiencing penalizing pricing policies from the Government, through overvalued exchange rates during the 1980s.

On the other hand, USAID loans from a revolving fund were not targeted. Furthermore, the bank has to repay the USAID loan fund before receiving a new injection of funds from the revolving fund. These two measures (the absence of targeting and the criteria of good loan repayment before new tranches are released) suggest that these actions lead to

much lower default rates than targeted loan policies. The IDB, the World Bank, and FIDA could improve the viability of BAGRICOLA by removing their targeting to high-risk clientele and emulate the USAID policy of untargeted loans.

A final feature of international loans merits comment. The bank's system of customer credit rating (before granting loans) is generally consistent with the resulting default record. Customers borrowing from deposit-based funds received good credit ratings prior to loan approval and the resulting low default confirmed the bank's judgement. Similarly, FIDA and agrarian reform customers did not receive high credit ratings (reflecting the bank's recognition of its risks with these clients) and, not surprisingly, they recorded high default rates. The only exception to this record of consistency is associated with internationally funded loans. Many World Bank and IDB clients received high credit ratings prior to the disbursment of these loans, but in the end they registered relatively high default rates. A possible explanation of this inconsistent record is that these international donors (except for USAID) do not emphasize good loan recovery in their targeting criteria. The bank, in turn, is possibly lax in following up on these loans with vigorous recovery efforts, since these are not the institution's own funds and the terms and conditions are imposed from the outside, thereby contributing to poor loan repayment.

IV. Recommendations

The following recommendations should be considered in any new measures to deal with the bank's current state of institutional weakness:

(1) Eliminate targeting from international donors and the Central Government. These actions introduce moral hazard into the bank's operations (i.e., induce the bank to accept high-risk clientele and inculcate lax loan administration, since all incentives are to push money quickly, at all costs).

(2) Change the strategic objective of the bank to emphasize financial viability, and continue with recent efforts to improve data management, portfolio revision, and collateral requirements.

(3) Encourage the bank to develop more appropriate default and arrears measures, through a systematic tracking of its medium and long-term loan portfolio, in order to capture installment repayments over the amount actually due, as well as documenting deferred payments and the rescheduling of past due loans. Periodic reports on loan repayment status should form the basis for institutional performance, rather than targeting criteria and the dubious practice of measuring the alleged impact of loans on the income of borrowers.

(4) Finance continuing investment in computing hardware and training in software information technologies, so that the bank can systematically track its portfolio to meet the objectives set forth in (3) above.

(5) Eliminate all interest rate ceilings on loans and deposits, to allow the bank to adjust to an inflationary environment and make appropriate risk-adjusted charges to new or high-risk clientele.

(6) Encourage decentralization in bank operations, so that branch managers can assume more responsibility for loan approvals and rejections. Staff evaluation

should then take into account the manager's performance in creating and managing a low-default portfolio.

(7) International donor funds should enter the bank in such a way as to not discourage local deposit mobilization efforts. This will create a healthier funding base, as more local deposits from the general public grow as a proportion of total funding sources.

(8) Support the bank in efforts to identify feasible bridge loans, where the bank can finance processor-marketing intermediaries and credit unions rather than farmers directly. Carefully constructed pilot projects could be tried out to determine which combination of intermediary-farmer network would prove more promising. It is important not to engage in overkill here. The bank should have the freedom to test several possible channels and terminate those that do not work out successfully. This should be a financial experiment to be administered within the capability of the bank's personnel and information management system. It should not be a massive program that overloads the system.

(9) International donors should protect the bank's institutional viability (and the profitability of farming operations financed by the bank) by pressuring the Government to remove interest rate ceilings, agricultural price controls, overvalued exchange rates, and other measures that compromise the financial viability of the bank and the bank's customers. It is important to deregulate price controls on agricultural products and the overvalued exchange rate at

the same time that interest rates are deregulated, so that the bank's clients can more easily pay higher interest charges.

(10) Encourage the government to undertake reforms towards a more efficient prudential regulatory system, that can reduce the risks of moral hazard in the financial sector. More effective bank examination procedures are required (including BAGRICOLA), as well as honest and responsible reporting of the risks inherent in the financial management of the country's formal financial intermediaries, along with carefully established rules for risk minimization in portfolio management and sanctions for institutions with unacceptable risk exposure.

In the last several years BAGRICOLA has begun to undertake promising internal reforms in the face of serious liquidity shortages. The recommendations suggested above could greatly facilitate this process and allow the bank to approach the goal of becoming a more disciplined, self sustaining institution, serving a responsible rural clientele of depositors and borrowers.

THE AGRICULTURAL DEVELOPMENT BANK OF THE DOMINICAN REPUBLIC: A LOAN REPAYMENT ANALYSIS[1]

Nelson Aguilera, Claudio Gonzalez-Vega, and Douglas H. Graham[2]

INTRODUCTION

The Agricultural Development Bank of the Dominican Republic (BAGRICOLA) as an agricultural development institution, is not only oriented to provide credit to the agricultural sector, but also to serve as a fundamental instrument of the Government's agrarian policies. It is by far the most important formal financial intermediary in the rural areas and the only source of formal credit for agrarian reform beneficiaries. During the 1983-1987 period, however, BAGRICOLA's share of the agricultural loan market experienced a sharp and sustained decline. As shown in Table 1, the bank's market share declined from 66.3 percent in 1983 to 37.2 percent in 1987. Commercial banks, on the other hand, increased

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[1] This report was prepared for the Agricultural Development Bank of the Dominican Republic (Banco Agrícola), within the framework of the Rural Financial Services Project in the Dominican Republic, sponsored by the Central Bank of the Dominican Republic, the United States Agency for International Development, and The Ohio State University, through the Cooperative Agreement on Experimental Approaches to Rural Savings (Science and Technology Bureau of AID Washington). The views are those of the authors and not necessarily those of the sponsoring institutions. The authors are grateful to Jeffrey Poyo and Adalgisa Adams, of the Rural Financial Services Project in Santo Domingo, and with Pedro Breton, Guillermo Santana, Marcos Tolentino, Jose Manuel Estepan, and all the other Banco Agricola officials and field staff, whose enthusiastic support made this ambitious undertaking possible.

[2] Aguilera is a Doctoral candidate and Gonzalez-Vega and Graham are Professors in the Department of Agricultural Economics and Rural Sociology at The Ohio State University.

their share from 24.7 percent in 1983 to 45.3 percent in 1987. The development banks, in turn, increased their share from 9.0 percent in 1983 to 13.6 percent in 1987.

Table 1: Agricultural Loan Portfolio in the Dominican Republic, by Type of Institution, 1983-1987. (Million DR $)

	Type of Financial Institution							
	Agricultural Bank (BAGRICOLA)		Commercial Banks		Development Banks		Total	
Year	Value	%	Value	%	Value	%	Value	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1983	255.5	66.3	95.2	24.7	34.7	9.0	385.4	100
1984	243.2	61.6	115.9	29.4	25.5	8.9	394.6	100
1985	274.3	56.8	146.2	30.2	62.1	12.9	482.6	100
1986	280.5	47.7	2114.4	36.5	92.7	15.8	587.6	100
1987	388.5	37.2	473.6	5.3	142.4	13.6	1004.5	100

Source: Superintendencia de Bancos, Republica Dominicana, Anuario Estadístico, 1987.

As shown in Table 2, these changing agricultural loan market shares were accompanied by an unstable trend in the total agricultural loan portfolio, measured in 1970 DR$[3]. In effect, the banking system's agricultural loan portfolio declined from DR$ 144.9 million in 1983 to DR$ 108.6 million in 1986, representing a fall of more than 25 percent. In 1987, this portfolio showed a marked increase, reaching the record level for the period, DR$ 161.8 million. This growth was mainly due to the sharp increase of the commercial banks'

[3] All amounts in real terms are expressed in pesos at constant 1970 prices.

participation in the agricultural loan portfolio, which increased more than 80 percent, from DR$ 39.7 million in 1986 to DR$ 72.3 million in 1987.

Table 2: Real Agricultural Loan Portfolio in the Dominican Republic, by Type of Institution 1983-1987. (Million of constant 1970 DR $)

	Type of Financial Institution							
	Agricultural Bank (BAGRICOLA)		Commercial Banks		Development Banks		Total	
Year	Value	%	Value	%	Value	%	Value	%
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1983	96.1	66.3	35.8	24.7	13.0	9.0	144.9	100
1984	76.5	61.6	36.4	29.4	11.2	8.9	124.1	100
1985	62.1	56.8	33.1	30.2	14.1	12.9	109.2	100
1986	51.8	47.7	39.6	36.5	17.1	15.8	108.6	100
1987	62.7	37.2	72.3	45.3	22.9	13.6	161.8	100

Source: Computed from Table 1, using the implicit GDP deflator.

These changing loan market shares were accompanied by an unstable trend in the BAGRICOLA's loan activities. As shown in Table 3, selected indicators of the bank's loan activities experienced during the period a similar behavior. In effect, the real value of approved loans, the number of approved loans, and the number of tareas[4] financed show a declining trend from 1984 until 1986, when all the indicators reached the lowest level for the period. A year later, the number of loans and of tareas funded reached their highest

[4] One tarea is equivalent to 628 square meters.

level for the period, and the real value of approved loans increased substantially, as compared to 1986, but without reaching the 1984 level. During 1987, the sharp increase in the number of approved loans and tareas financed determined a drastic fall in the real amount per approved loan and tarea financed.

Table 3: Selected Indicators of BAGRICOLA's Loan Activity, 1983-1987.

Year	Approved Loans		Number of Tareas Financed (000)	DR$ per	
	Value* (1970 DR$)	Number (000)		Loan (1/2)	Tarea** (1/3)
	(1)	(2)	(3)	(4)	(5)
1983	60,135,900	31,050	2,089.4	1,936.7	28.8
1984	61,791,100	34,455	2,521.8	1,964.4	24.5
1985	54,415,400	28,787	1,939.8	1,890.3	28.1
1986	37,614,000	18,094	1,571.6	2,078.8	23.9
1987	58,956,000	53,513	2,880.7	1,101.7	20.5

Source: Banco Agricola de la Republica dominicana, Boletin Estadistico, 1987.

* Deflator: Implicit GDP Deflator.
** One tarea equals 628 square meters.

This evolution reflected the sustained decline of BAGRICOLA's participation in the banking system's agricultural loan portfolio, and the increasing liquidity problems experienced by the institution in recent years. This declining share of BAGRICOLA appears to be directly related to:

(a) an increase in agricultural loan activities by commercial and development banks, and

(b) a deterioration of BAGRICOLA's loan portfolio, due to inflation and loan repayment problems.

The increasing rate of inflation experienced by the country in recent years has played an important role in explaining the steady deterioration of BAGRICOLA's loan portfolio. The bank, following the Government's agrarian policies, granted loans to rural producers at concessional interest rates, usually below the inflation rate. The bank thus failed to protect the real value of its loan portfolio.

Default and arrears in the BAGRICOLA loan portfolio have also played a key role in explaining this declining share. The lack of appropriate loan repayment performance measures[5] has made it difficult, however, to clearly identify the magnitude and the factors affecting the repayment problems faced by the bank. As shown in Table 4, the loan repayment performance of the bank appears to have improved during this period. The proportion of past due loans fell from 21.1 percent of the portfolio in 1983 to 6.9 percent in 1988. As a result, it has been suggested that loan repayment problems are not a main reason for the declining participation of BAGRICOLA in the system's agricultural loan portfolio. Increasing inflation and the slow down of international flows of funds have been pointed out as the most important factors affecting the increasing liquidity problems experienced by BAGRICOLA in recent years.

The delinquency indicator utilized by the bank is not adequate, however, for any meaningful analysis of loan repayment performance at BAGRICOLA. The current policy

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[5] The loan delinquency indicator is measured by considering the total unpaid amount of past due loans over the total value of the loan portfolio.

on loan repayment at BAGRICOLA conforms more to the objective of intermittently promoting collection campaigns, to create additional liquidity to service new loan demand, rather than rigorously documenting and analyzing the main dimensions of the loan repayment problems in their own right. In order to analyze the importance of these problems, a more accurate measurement of loan repayment performance must be adopted. This performance must be monitored by following through time the evolution of the repayment status of loans disbursed during a specified period of time.

Table 4: Official Loan Default Index Reported by BAGRICOLA, 1983-1988.

	Loan Amount (DR Pesos)		Default Index (Percentage)
Year	Past Due	Portfolio	(1/2)
	(1)	(2)	(3)
1983	53,716,257	255,542,211	21.1
1984	48,296,325	243,190,640	19.9
1985	45,102,256	272,522,732	16.6
1986	53,558,211	280,461,565	19.1
1987	51,160,831	388,462,646	13.0
1988	43,848,321	633,,929,335	6.9

Source: Banco Agricola de la Republica Dominicana, Boletin Estadistico, 1987.

Objective

This report attempts to critically evaluate the loan repayment performance of BAGRICOLA, in order to identify the main factors that influence the delinquency problems faced by the bank in recent years. More specifically, the main objective is to provide a

comprehensive overview of the loan repayment problems faced by the bank, in order to guide the bank, the Government, and international donors in formulating relevant policy strategies to allow BAGRICOLA to become more financially viable and self-sustaining.

Methodology

For the purposes of analyzing the performance of loans disbursed by the bank during 1987, the repayment status of these loand as of August 31, 1989 was classified into six categories:

1. *complete or partial default*, if the total loan was in default or some installments of long terms loans were unpaid 30 days after the due date;
2. *in litigation*, if unpaid loans or installments were subject to legal collection procedures;
3. *rescheduled*, if the repayment period of the loan had been extended, without altering the amount of the principal and interest outstanding;
4. *paid with arrears*, for loans with completed loan maturity, if the loan or the installments had been paid later than 30 days after the due date;
5. *current*, if loans or installments were not yet due; and
6. *paid without arrears*, if loans or installments of long-term loans had been paid within 30 days of the due date.

Defaulting loans have beeen just one dimension of the loan repayment problems faced by the institution in recent years. Installment arrears and the rescheduling of outstanding loans constitute other important dimensions of the repayment problems faced by the bank. Hence, any meaningful analysis of the repayment performance of outstanding loans

disbursed by development institutions must examine the importance of rescheduling and installment arrears, as well.

The effects of different borrower and loan characteristics on loan repayment performance will be studied by analyzing several cross-classified variables and loan repayment. Detailed information will be provided in terms of the number and the volume of loans granted by type of borrowers, land tenure, type of investment, source of the funds, and type of collateral.

The Data

To achieve a research design that allows for a comprehensive analysis of the loan repayment problems faced by the Agricultural Development Bank of the Dominican Republic, special emphasis was placed on collecting and constructing the basic primary data set directly from customer dossiers. The data used for this study consist of a sample of 3,455 loan applications in 1987, from 18 BAGRICOLA branches.[6] These branches appropriately represent the regional variety that characterizes the bank's loan activities. The branches excluded from the sample present characteristics similar to those of the branches selected.

The year 1987 was chosen for two reasons. First, 1987 was a year of "normal" loan activity, compared to 1986 and 1988. In 1986, BAGRICOLA's loan activity was the lowest recorded during the decade. In 1988, the bank received an important transfer from the Government, which contributed to a sharp increase in the volume of loans disbursed.

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[6] Bani, Ocoa, Barahona, Comendador, Puerto Plata, Santiago, Valverde, Santiago Rodriguez, La Vega, Constanza, San Francisco de Macoris, Salcedo, Rio San Juan, Arenosa, Samana, Hato Mayor, Santo Domingo, and Monte Plata.

Consequently, 1987 reflected more regular market conditions. Second, by studying the bank's 1987 loan activity we will be able to follow the borrowers' behavior for almost two years (through August 1989). This is desirable, in order to more appropriately measure the loan repayment problem through time.

The selected sample of 3,455 loan applications in 1987 represented 8.8 percent of the total loan applications received by the selected branches of the bank during that year. During 1987, among the 43,251 loan applications processed at the selected branches, 36,395 were approved, 2,928 were rejected, and 3,928 were withdrawn by the customers.

To maintain a rough balance among accepted, withdrawn, and rejected applications, we took 569 rejected, 538 withdrawn, and 2,251 approved loan applications in 1987. Each sub-sample was obtained by using systematic sampling. This method consists of selecting a sample from a regular interval in the respective loan files, after the first unit has been selected with the aid of a table of random numbers.

The Questionnaires

After selecting the sample, two questionnaires were designed to collect the relevant information. The first consisted of 50 questions where answers were drawn from each selected credit dossier. The questions contained in this questionnaire can be grouped in three main categories. The first category documents the borrower's characteristics before the bank decided to approve or reject the loan application. These data reflect the information available for the screening process. The second group of questions documents the bank's behavior after the loan was approved but before it was disbursed. The final set of

questions documents both the borrower's and the lender's behavior after the loan had been disbursed. In particular, we were interested in establishing the lender's collection activities.

A second questionnaire, containing 21 questions, was designed to identify the operational procedures and practices of each selected branch. In this questionnaire we were interested in determining the total expenditure incurred in screening and collection activities for each branch. This information complements the data generated from the credit dossiers.

Organization of the Report

In addition to this introduction, the report contains two sections. The first documents in detail the main characteristics of the sample of loans granted by BAGRICOLA during 1987. The second presents a descriptive profile and interpretive analysis of the repayment performance of loans disbursed by the bank in 1987. The main conclusions and policy recomendations are contained in the executive summary preceding this report.

DISTRIBUTION OF THE SAMPLE OF LOANS GRANTED IN 1987

The sample gathered information on loans disbursed during 1987 by selected BAGRICOLA branches. Detailed information was obtained about the number and volume of loans disbursed by type of borrower, land tenure, investment, source of the funds, collateral, and loan size.

Distribution by Type of Borrower

Borrower type consists of four main categories:

(a) First, non-reform individuals comprise all those individual borrowers who are not agrarian reform beneficiaries.

(b) Second, non-agrarian reform associations refer to groups of borrowers not associated with the agrarian reform process, but organized to obtain loans from the bank. Each member of the association is independently evaluated by the bank before the decision is made to disburse the loan. If any member of the association fails to repay his loan, the association as a whole is considered liable as a defaulting debtor.

(c) Third, agrarian reform individuals include all those borrowers who are beneficiaries of the agrarian reform process with provisional titles to their lands.

(d) Fourth, agrarian reform associations correspond to organized groups of agrarian reform beneficiaries.

Table 5

Number, Amount, and Average Loan Size by Type of Borrower for the Sample of Loans Disbursed in 1987.

Type of Borrower	Number of Loans		Volume Disbursed		Average Loan Size
	N	%	(000) Pesos	%	(000) Pesos
1. Non-Reform Individual	1702	75.7	5477.2	57.3	3.22
2. Non-Reform Association	17	0.8	272.2	2.8	16.01
3. Agrarian Reform Individual	473	21.0	1373.7	14.4	2.90
4. Agrarian Reform Association	46	2.0	2383.3	24.9	51.81
5. Other	10	0.4	60.7	0.6	6.07
Total	2248	100.0	9567.1	100.0	4.26

The total number and volume of disbursed loans and the average loan size are reported in Table 5. A majority of the loans were granted to non-agrarian reform borrowers (approximately 77 percent of the total number) and accounted for 61 percent of the total volume. On the other hand, 23 percent of the number of loans disbursed to agrarian reform beneficiaries accounted for 39 percent of the total amount.

Average loan size for agrarian reform associations was significantly larger than for non-agrarian reform associations. Agrarian reform associations received an average loan size more than three times larger than loans for non-agrarian-reform associations. In contrast, the average loan for the non-agrarian reform individual borrowers was slightly larger than for agrarian reform beneficiaries.

Distribution by Type of Land Tenure

Land tenure status was classified into five main categories:

(a) First are private landowners with well established property rights.

(b) Second are non-agrarian reform occupants of public lands without property rights.

(c) Third are tenants, usually rural producers renting or sharcropping on someone else's land.

(d) Fourth are borrowers whose land has been provided by third parties (usually from an extended family member) free of charge.

(e) Fifth are agrarian reform owners, with provisional titles.

Table 6: Number, Amount, and Average Loan Size by Type of Land Tenure for the Sample of Loans Disbursed in 1987.

	Number of Loans		Volume Disbursed		Average Loan Size
Type of Land Tenure	N	%	(000) Pesos	%	(000) Pesos
1. Private Owner	637	28.7	2571.6	27.0	4.04
2. Occupant of Public Lands	872	39.2	2220.2	23.3	2.55
3. Tenant	30	1.3	264.0	2.8	8.80
4. Free-of-charge Land	191	8.6	821.4	8.6	4.30
5. Agrarian Reform Owner	472	21.2	3481.8	36.5	7.38
6. Other	21	0.9	176.6	1.9	8.41
Total	2223	100.0	9535.6	100.0	4.29

As shown in Table 6, agrarian reform beneficiaries with provisional titles accounted for 36.5 percent of the total volume of loans granted during 1987. Landowners and borrowers occupying public lands without title accounted for 27 and 23 percent of the total volume, respectively. An important contrast stands out in Table 6 between the average loan size for agrarian reform beneficiaries and loan size for private landowners and occupants of public lands. Agrarian reform beneficiaries received loans of average size three times larger than those for public land occupants, and almost twice as large as those for land owners. This result is influenced by the relatively large volume of loans granted to large agrarian reform groups.

Distribution by Type of Investment

The agricultural activities financed by BAGRICOLA can be classified into five main categories.

(a) First, non-industrial food crops such as rice, cassava, plantain, potatoes, and vegetables.

(b) Second, industrial food crops include tomatoes, pineapple, melon, and sorghum.

(c) Third, agricultural exports comprise activities related to coffee and cacao cultivation.

(d) Fourth, livestock refers to the production of beef, milk, pork, and poultry.

(e) The last category consists of the purchase of machinery and equipment.

A close look at the number and volume of loans disbursed by BAGRICOLA by type of investment (Table 7) indicates that even though the bank financed a variety of agricultural activities, its loans tended to be fairly concentrated in non-industrial food crops (mainly rice) and livestock activities. Loans for these two purposes accounted for about 90 percent of the total number and 80 percent of the volume of loans. This high concentration reflects the importance in the cost of living of products such as rice, plantain, beef, milk, and pork. The implied lack of diversification suggests, however, that the bank is exposed to the performances of few sectors.

It is also interesting to observe the small average size of loans disbursed for most agricultural activities, specially for livestock and non-industrial food crops. This reflects the Government's interest in guaranteeing the access of small farmers to credit.

Table 7: Number, Amount, and Average Loan Size by Type of Investment for the Sample of Loans Disbursed in 1987.

	Number of Loans		Volume Disbursed		Average Loan Size
Type of Investment	N	%	(000) Pesos	%	(000) Pesos
1. Non-Industrial Food Crop	821	36.5	4686.6	49.0	5.71
2. Industrial Food Crop	108	4.8	1050.0	11.0	9.72
3. Agricultural Export	112	5.0	668.7	7.0	5.97
4. Livestock	1156	51.4	2774.2	29.0	2.40
5. Machinery & Equipment	47	2.1	346.9	3.6	7.38
6. Other	7	0.3	43.3	0.5	6.19
Total	2251	100.0	9569.7	100.0	4.25

Distribution by Source of the Funds

The Agricultural Development Bank's funds come from a variety of sources which, for the purposes of this study, have been classified into seven categories:

(a) First are the bank's own resources (Plan 1 and Plan 5).

(b) Second are FIDE funds (Fondo de Inversion de Desarrollo Economico). This is a special fund (Plan 19) provided by the Central Bank for agricultural development.

(c) Third are international sources, which comprise a variety of credit lines from foreign agencies. One is Plan 37, a special credit line funded by the Inter-American Development Bank (RD$ 36.5 million) and the Dominican Government (RD$ 11.0 million). Another is Plan 38, a credit line funded with resources provided by the World Bank (US$ 36.6 million), the Dominican Government (US$ 6.59 million), and the final beneficiaries (US$ 2.99 million). This credit line was designed to finance coffee and cacao development projects. Plan 43 is a rotating fund provided by USAID (DR$ 67.0 million) and administered by the Central Bank. This fund was provided to

finance investment projects selected by the bank and is not subject to any loan targeting criteria.

(d) Fourth is a small livestock line of credit, primarily for the financing of pigs, known as the swine fund (Plan 44). This credit line was funded by the Government to finance the purchase by small swine producers of one pregnant sow, and in some cases one pregnant cow. The objective was to increase the swine and cattle population in the hands of poor farm-households and thereby improve their income.

(e) The fifth category is the agrarian reform fund (Plan 44). This is a credit line created with Government resources to finance the agricultural and livestock activities of agrarian reform beneficiaries.

(f) Sixth are savings accounts funds. This source (Plan 50) uses the funds obtained from the bank's deposit mobilization activities.

(g) The final category, FIDA (Plan 42) corresponds to a special international credit line funded with resources provided by the Fondo Internacional para el Desarrollo Agropecuario, to finance the agricultural and livestock activities of small rural producers.

Table 8 clearly indicates that a majority of the loans granted during 1987 were disbursed from the bank's own resources (46 percent). Government-sponsored funds (agrarian reform and swine plans) accounted for 32 percent of the total volume disbursed. It is interesting to observe that Government funds accounted for about 50 percent of the total number of loans granted. This obviously reflected the interest of the Government in providing credit to small rural producers. This is especially apparent in the case of the small

livestock swine fund. International donors provided funds for 15 percent of the total volume granted. This clearly reflected the declining participation of international agencies in BAGRICOLA's sources of funds. FIDE, FIDA, and savings accounts funds altogether financed less than 4 percent of the total amount disbursed.

Table 8: Number, Amount, and Average Loan Size for the Sample of Loans Disbursed in 1987 by Source of Funds.

	Number of Loans		Volume Disbursed		Average Loan Size
Source of Funds	N	%	(000) Pesos	%	(000) Pesos
1. Own Resources	768	34.1	4395.6	45.9	5.72
2. FIDE	18	0.8	95.7	1.0	5.32
3. International	186	8.3	1404.4	14.7	7.55
4. Swine Fund	896	39.8	1080.9	11.3	1.21
5. Agrarian Reform Fund	196	8.7	1857.9	19.4	9.48
6. Savings Accounts	24	1.1	104.2	1.1	4.34
7. FIDA	131	5.8	182.9	1.9	1.40
8. Other	33	1.5	448.8	4.7	13.60
Total	2252	100.0	9570.4	100.0	4.25

An important contrast stands out in Table 8 between the average size for agrarian reform loans and those granted with resources from the Swine Plan. Loans granted with resources from the agrarian reform fund had an average size about eight times as large as loans provided with resources from the Swine Plan. This striking difference reflects the importance of loans to finance large agrarian reform groups, which in turn retail these resources to individuals within the group. It also reflects the nature of the resources provided for livestock development by the Dominican Government. This fund has been a classic case of a social program designed more to satisfy political objectives than to accomplish production goals. The large number of loans and the small average loan size of the

Swine Plan have heavely impacted on the BAGRICOLA's operation costs, thereby affecting its financial viability.

Distribution by Type of Collateral

Collateral was classified in three main categories:

(a) mortgage;

(b) crop lien pledges (prenda), loans guaranteed with the output of the investment project, and;

(c) crops in bank custody, loans guaranteed with agricultural produce actually stored under bank control (pignoraticia).

Table 9: Number, Amount, and Average Loan Size by Type of Collateral for the Sample of Loans Disbursed in 1987.

	Number of Loans		Volume Disbursed		Average Loan Size
Type of Collateral	N	%	(000) Pesos	%	(000) Pesos
1. Mortgage	31	1.4	654.5	6.8	21.11
2. Crop Lien Pleges	2210	98.2	8735.4	91.3	3.95
3. Crops in Bank Custody	10	0.4	179.0	1.9	17.90
Total	2251	100.0	9568.9	100.0	4.25

Table 9 shows the low quality of the collateral provided by the borrowing clientele. In effect, more than 98 percent of the loans were disbursed with just prenda as collateral. Only one percent of the loans were granted with mortgage as collateral. This is a striking result, if we consider the fact that more than 50 percent of the loans were granted either to landowners or agrarian reform beneficiaries with provisional titles, who allegedly could be in the position of providing a stronger collateral than just a pledge on future agricultural production. The absence of efficient legal and judicial procedures for foreclosure, on the

other hand, would make mortgages expensive for both borrowers and the bank and still be of little value as an incentive for repayment.

Distribution by Loan Size

The loans granted in 1987 were classified into three loan size categories, by using the percentiles of the distribution of loan size:

(a) The first category includes the five percent with the largest loans in the overall sample.

(b) The second category includes medium-size loans, comprising 90 percent of the sample of loans.

(c) Finally , the third category, comprising the remaining five percent, consists of the smallest loans in the sample.

Table 10: Number, Amount, and Average Loan Size by Loan Size Category for the Sample of Loans Disbursed in 1987.

	Number of Loans		Volume Disbursed		Average Loan Size
Loan Size	N	%	(000) Pesos	%	(000) Pesos
1. Large (more than DR$ 14,000)	111	4.9	5111.4	53.4	46.05
2. Medium (DR$ 459 - DR$14,000)	2030	90.1	4423.9	46.2	2.18
3. Small (less than DR$ 459)	111	4.9	35.2	0.4	0.32
Total	2252	100.0	9570.4	100.0	4.25

The degree of concentration of the loans disbursed during 1987 can be examined in Table 10. A large proportion of the amount disbursed (53 percent) corresponded to the five percent largest loans, with an average amount of DR$ 46,050. In contrast, the medium loan-size category accounted for 46 percent of the total volume granted during 1987, with

an average loan size of DR$ 2,180. The small loan-size category, in turn, accounted for 0.32 percent of the total volume of loans disbursed, with an average of DR$ 320 per loan.

Summary

A majority of the loans disbursed in 1987 were granted to non-agrarian reform beneficiaries. About 60 percent of the total volume corresponded to this category, whereas less than 40 percent was granted to agrarian reform beneficiaries. The bank was particularly inclined to lend to associations of agrarian reform beneficiaries rather than to individual reform beneficiaries. This reflects the bank's attempt to reduce lending costs, by avoiding a large number of loans to small rural producers.

Loans were mainly disbursed for non-industrial food crops such as rice, plantain, cassava, and potatoes. Almost half of the total amount of loans disbursed during 1987 were granted to finance these activities. The bank's own resources accounted for almost half of the total funds available during that year, while government-sponsored funds (swine and agrarian reform plans) accounted for about 30 percent of the total amount. Internationally sourced funds accounted for less than 15 percent of the total.

A high proportion of the loans were guaranteed with just the output of the investment project (i.e., prenda). In effect, 98 percent of the loans were granted with only the agricultural output as collateral, and less than 2 percent required mortgages. Finally, over half of the total volume disbursed during 1987 was granted to less than five percent of the number of borrowers. This is in part related to the bank's attempts to reduce lending costs. Obviously, it is cheaper to lend to individuals organized through associations than to lend to each member separately.

REPAYMENT PERFORMANCE OF LOANS GRANTED IN 1987

The loan repayment performance index used by BAGRICOLA measures the ratio between the unpaid amount of past due loans and the total value of outstanding loans. This is clearly not adequate to analyze loan repayment performance. The index understimates the true magnitude of the loan repayment problems faced by the institution. On the one hand, the numerator of this ratio includes only the unpaid amount of past due loans that have completed their term maturity and were in default 30 days after the final term due date. Hence, it does not include unpaid installments of medium and long-term loans, rescheduled loans, or loans finally paid with arrears. Rescheduling and arrears are also repayment problems that must be analyzed, since at least in the short-run they may affect the bank's liquidity. On the other hand, the index is not easy to interpret. While the payment of an installment reduces both the numerator and denominator by the same magnitude, the disbursement of new loans reduces the index by only increasing the denominator. Thus, portfolio quality may artificially appear to improve with the rapid disbursing of new long-term loans.

This section presents a detailed analysis of the repayment performance of loans granted by the BAGRICOLA during 1987. The repayment performance of these loans as of August 31, 1989 is examined on the basis of a classification of outstanding balances into six categories:

(a) First, default refers to the unpaid amount of loans with completed maturity in arrears at least 30 days after the due date for the final payment (total default), as well as unpaid installments of longer-term loans already due for 30 days (partial default). This category represents hard core default.

(b) In litigation refers to the amount of unpaid loans in the process of judicial collection.

(c) Third, rescheduled loans refer to those loans for which the repayment period has been extended, without altering the sum of the principal and interest outstanding.

(d) Fourth, paid with arrears comprise all loans of completed maturity that were eventually repaid, in full or in part, 30 days after the due date.

(e) The fifth category refers to current loans, for which no payments were yet due.

(f) The sixth category refers to loans paid without arrears, for which payment for term installments or completed term loans had been made before or within 30 days of the due date.

Table 11 shows that 45 percent of the loans granted in 1987, accounting for 20 percent of the total amount, were in partial or total default as of the end of August, 1989. Total or partial default, however, is just one dimension of the loan repayment problem faced by the institution. Payment with arrears and the rescheduling of loans constitute another important dimension of these problems. As reported in Table 11, about 22 percent of the loans disbursed during 1987, accounting for 33 percent of total value, were paid at least 30 days after their due dates. Furthermore, 5.4 percent of the loans, accounting for 4.2 percent of the total amount, had been rescheduled.

Considering not only unpaid installments and completely defaulted loans, but also rescheduled loans and loans paid with arrears, 72 percent of the number of loans, accounting for about 60 percent of the total volume, registered repayment problems. This striking result obviously contradicts the bank's official statement concerning the magnitude of the loan repayment problems in 1987, in which only 13 percent of the portfolio was considered in default (Table 4). Thus, it is clear that these loan repayment problems are not a minor (or declining) issue for the institution. On the contrary, deficient loan recovery is of primary importance in explaining the increased liquidity problems experienced by the institution in recent years.

Table 11: Distribution of the Repayment Status as of August 1989 for the Sample of Loans Disbursed in 1987

	Average Loan Size	Proportion of the Volume Disbursed	Proportion of the Number of Loans
Repayment Status	D.R. Pesos	%	%
Default	3406.7	20.1	44.9
In Litigation	10561.0	0.4	0.2
Rescheduled	5274.1	4.1	5.4
Paid With Arrears	6429.4	33.0	21.9
Current	6154.5	11.6	10.2
Paid Without Arrears	2267.2	8.8	16.7

Loan Repayment by Type of Borrower

Table 12 shows the repayment status as of August 31, 1989 for the sample of loans disbursed in 1987, by type of borrower. Loans disbursed to agrarian reform beneficiaries presented a poorer repayment performance than loans disbursed to non-agrarian reform borrowers. On the one hand, 57 percent of the number of loans, accounting for 32 percent

of the total amount disbursed to individual beneficiaries of the agrarian reform process, were in complete or partial default (i.e., hardcore default in the second column of Table 12). On the other hand, 42 percent of the loans, accounting for 20 percent of the total amount disbursed to individual non-reform borrowers, were in complete or partial default. At the same time, 23 percent of the number of loans, accounting for 2.1 percent of the total volume disbursed to non-reform associations, were in complete or partial default, while 41.5 percent of the loans, accounting for 18 percent of the amount disbursed to associations of agrarian reform beneficiaries, were also in default.

Table 12: Repayment Status as of August 30th 1989 for the Sample of Loans Disbursed in 1987, by Type of Borrower

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Borrower	(000) Pesos	%	%	%	%	%	%
1. Non-Reform Individual	5597.92	20.2	0.5	3.5	31.6	17.8	13.1
2. Non-Reform Association	330.18	2.1	.	16.1	58.8	19.9	2.4
3. Agrarian Reform Individual	1244.35	31.8	0.7	10.0	26.2	4.5	8.1
4. Agrarian Reform Association	2325.29	17.9	.	1.4	37.9	0.5	1.0
5. Other	60.75	11.3	.	.	82.3	1.8	.

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
		Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Borrower	Number of Loans	%	%	%	%	%	%
1. Non-Reform Individual	1737	42.0	0.1	4.4	23.9	11.1	18.5
2. Non-Reform Association	22	22.7	.	9.1	36.4	18.2	13.6
3. Agrarian Reform Individual	432	57.4	0.5	9.5	13.9	6.7	12.0
4. Agrarian Reform Association	41	41.5	.	2.4	39.0	9.8	7.3
5. Other	10	80.0	.	.	10.0	10.0	.

Although both types of associations showed a lower default rate than individual borrowers, the proportion of the number of loans paid by the due date was still extremely low, representing only 3.4 percent of the total amount disbursed (i.e., the final column in panel A of Table 12). This was due to a large percentage of the amount disbursed to associations that was paid with arrears. Approximately 59 percent of the amounts disbursed to associations of non-reform borrowers, and 38 percent of the amounts disbursed to associations of reform beneficiaries were paid with arrears (i.e., column 5, panel A). This may be explained in part by the fact that the members of the associations do not harvest their output at the same time, and the fact that these loans are not considered as paid until the last member of the association has cancelled his obligation.

Loan Repayment by Type of Land Tenure

Table 13 shows the profile of repayment as of August 31, 1989 for the sample of loans, according to the tenure status of the borrower. Agrarian reform beneficiaries with provisional titles recorded the poorest loan repayment performance, in comparison to landowners and occupants of public lands without title. In effect, 57 percent of the number of loans disbursed to agrarian reform beneficiaries were in default, while 41 and 42 percent of the loans disbursed to landowners and occupants of public lands without title were in default, respectively.

Thus, the repayment performance of landowners and of occupants of public lands without title was quite similar. This is a counterintuitive result. One would expect that occupants of public lands without title would have a poorer repayment performance than owners with title. Moreover, the occupants of public lands without title recorded one of the

highest proportion of loans paid by the due date. It is also interesting to note that the repayment performance of owners, occupants of public lands, and agrarian reform beneficiaries, measured in terms of the unpaid amount of past due loans, was also quite similar. These results suggest that the nature of land tenure is not an important factor affecting loan repayment performance. This may be related to the poor collateral requirements of the bank. The bank requires mortgages only for loans above DR$ 70,000.

Table 13: Repayment Status by August 30th 1989 of the Sample of Loans Disbursed in 1987, by Type of Land Tenure

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Land Tenure	(000) Pesos	%	%	%	%	%	%
1. Private Owner	2569.57	18.9	1.0	2.9	35.0	22.8	8.3
2. Occupant of Public Land	2219.21	22.9	.	6.9	23.3	14.5	16.7
3. Tenant	263.98	5.4	.	2.9	79.5	1.8	8.7
4. Free-of-charge land	819.50	14.1	0.1	1.4	39.1	18.0	14.5
5. Agrarian Reform Owner	3478.14	23.4	0.2	4.5	32.0	1.9	3.6
6. Other	176.58	4.2	.	.	89.3	.	5.9

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
	Loans	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Land Tenure	Disbursed	%	%	%	%	%	%
1. Private Owner	635	41.3	0.2	3.8	28.5	12.1	14.2
2. Occupant of Public Land	871	42.4	.	5.2	19.7	11.5	21.2
3. Tenant	30	33.3	.	6.7	36.7	6.7	16.7
4. Free-of-charge land	189	37.6	0.5	3.7	28.6	9.0	20.6
5. Agrarian Reform Owner	471	56.9	0.4	8.9	15.1	7.0	11.7
6. Other	21	33.3	.	.	42.9	.	23.8

Loan Repayment by Type of Investment

Table 14 shows the repayment profile by the activities financed. Loans disbursed for livestock activities clearly presented the poorest repayment performance. Roughly 57 percent of the loans, accounting for 30 percent of the total amount disbursed to finance livestock activities, were in default. On the other hand, the proportion of the amount disbursed to finance non-industrial food crops, industrial food crops, agricultural exports, and machinery and equipment did not reach 20 percent in any case. However, of the amounts disbursed to finance industrial food crops and agricultural exports, 81 and 55 percent were paid with at least 30 days of arrears. Non-industrial food-crops also presented a high proportion (28 percent) of payment with arrears, due mainly to the fact that rice farming accounted for a large proportion of the activities included in this category. These results suggest that loans disbursed to finance agricultural activity that requires industrial processing contribute, at least in the short-run, to the bank's collection problems. The high level of arrears presented in these categories is linked to marketing problems faced by the borrowers. The agro-industrial processors and rice millers normally pay the farm-borrowers for their produce only after a delay in processing and the final sales of the output to wholesalers and/or retailers.

Table 14: Repayment Status by August 30th 1989 of the Sample of Loans Disbursed in 1987, by Type of Investment

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Investment	(000) Pesos	%	%	%	%	%	%
1. Non-Industrial Food Crop	4682.86	18.6	0.7	7.2	28.0	3.4	11.7
2. Industrial Food Crop	1049.95	7.1	.	1.5	81.4	4.0	2.4
3. Agricultural Export	668.72	16.2	.	0.9	54.5	19.1	7.3
4. Livestock	2769.33	30.0	0.1	1.5	22.5	24.3	8.2
5. Machinery & Equipment	346.93	18.2	.	1.4	16.9	36.4	1.5
6. Other	43.30	35.2	.	.	24.7	9.0	17.9

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
	Loans	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Investment	Disbursed	%	%	%	%	%	%
1. Non-Industrial Food Crop	820	32.8	0.2	10.4	27.9	3.5	25.1
2. Industrial Food Crop	108	25.9	.	4.6	38.9	9.3	21.3
3. Agricultural Export	112	24.1	.	2.7	28.6	14.3	30.4
4. Livestock	1151	57.4	0.2	2.3	16.4	13.8	9.9
5. Machinery & Equipment	47	46.8	.	2.1	17.0	29.8	4.3
6. Other	7	42.9	.	.	14.3	14.3	28.6

Loan Repayment by Source of the Funds

Table 15 shows the repayment status by source of the funds. The best loan recovery for loans disbursed in 1987 was for those funded by the bank's deposit mobilization activities (savings accounts), while the worst repayment performance was for loans funded by resources provided by the Fondo International para el Desarrollo Agropecuario (FIDA), to finance the agricultural and livestock activities of small rural producers. Only 4.2 percent

of the number of loans, accounting for 0.2 percent of the total amount disbursed with funds provided by the savings accounts, were in default, while 74 percent of the loans, accounting for 54 percent of the total amount disbursed with FIDA funds, were in total or partial default.

Table 15: Repayment Status by August 30th 1989 of the Sample of Loans Disbursed in 1987, by Source of the Funds

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Source of Funds	(000) Pesos	%	%	%	%	%	%
1. Own Resources	4394.59	11.9	.	2.3	34.2	14.9	10.3
2. FIDE	95.74	7.9	27.8	10.9	9.5	5.5	17.1
3. International	1404.38	32.3	.	0.4	28.3	22.9	10.9
4. Swine Fund	1077.95	48.4	0.2	1.9	16.6	6.5	12.2
5. Agrarian Reform Fund	1854.19	18.6	.	12.4	37.7	2.3	3.3
6. Saving Account	104.24	0.1	.	.	49.9	1.0	42.4
7. FIDA Fund	182.91	53.7	.	19.2	3.8	1.5	0.4
8. Other	447.78	4.3	1.7	.	83.8	6.9	1.0

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
	Loans	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Source of Funds	Disbursed	%	%	%	%	%	%
1. Own Resources	767	24.4	.	4.3	35.2	9.6	26.5
2. FIDE	18	11.1	5.6	16.7	16.7	16.7	33.3
3. International	186	32.8	.	2.7	21.0	21.5	22.0
4. Swine Fund	893	63.9	0.2	2.2	12.5	10.6	10.4
5. Agrarian Reform Fund	195	41.0	.	17.4	25.1	5.6	10.8
6. Savings Account	24	4.2	.	.	41.7	4.2	50.0
7. FIDA Fund	131	74.0	.	19.1	3.8	2.3	0.8
8. Other	32	34.4	3.1	.	40.6	9.4	12.5

Loans funded with the bank's own resources presented a better repayment performance than loans funded with funds provided by international agencies. Approximately 24 percent of the number of loans, accounting for 12 percent of the amount disbursed with the bank's own resources, were in default. In contrast, 33 percent of the loans, accounting for 32 percent of the amount disbursed with internactional resources, were in default by August 30, 1989.

Usually poor recovery stands out for loans from special Government funds. In effect, 64 percent of the number of loans, accounting for 48 percent of the amount disbursed with funds from the swine fund, were in total or partial default. At the same time, 41 percent of the number of loans, accounting for 19 percent of the amount disbursed with agrarian reform funds, were in partial or complete default.

Loans funded through the new savings accounts and the bank's own resources are not subject to targeted lending to selected groups or activities. Branch managers have some degree of flexibility to choose their clientele. International and government-sponsored funds, on the other hand, force bank managers to allocate their funds to targeted groups, regions, or agricultural activities regardless of the potential risk involved. As shown in Table 15, the repayment performance of targeted loans is notoriously poorer than that for non-targeted loans.

Recently, USAID provided BAGRICOLA with RD$ 67.0 million, to create a special credit line to finance the bank's lending activities without any targeted restriction on its loan allocation operations. Thus, branch managers have been able to select their clientele freely. Obviously, a comparison between the status of loans disbursed with the international

non-targeted loans (USAID) and those disbursed with international targeted funds (IDB, World Bank, and FIDA) is relevant, in order to understand the effect of loan targeting on loan repayment problems.

Table 16: Repayment Status by August 30th 1989 of the Sample of Loans Disbursed in 1987, by International Source of Funds

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans				
	Volume Disbursed	Default	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Source of Funds	(000) Pesos	%	%	%	%	%
1. IDB Fund	798.33	38.7	0.2	22.4	23.9	10.3
2. World Bank Fund	283.90	45.0	.	4.4	45.6	0.1
3. FIDA Fund	182.91	53.7	19.2	3.8	1.5	0.4
4. Rotating AID Fund	322.15	5.3	1.2	63.9	0.6	21.9

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans				
	Number of	Default	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Source of Funds	Loan	%	%	%	%	%
1. IDB Fund	59	33.9	3.4	16.9	20.3	25.4
2. World Bank Fund	61	50.8	.	3.3	44.3	1.6
3. FIDA Fund	131	74.0	19.1	3.8	2.3	0.8
4. Rotating AID Fund	66	15.2	4.5	40.9	1.5	37.9

As shown in Table 16, loans disbursed with non-targeted funds provided by USAID showed a remarkably good repayment performance. Only 5.3 percent of the total amount disbursed with these funds in 1987 were in total or partial default by the end of August, 1989, while 39, 45, and 54 percent of the amount disbursed in 1987 with funds provided by the IDB, the World Bank and FIDA, respectively, were in default. Clearly, these other donors' funds have been provided to finance predetermined, default-prone groups of

borrowers and agricultural activities, preventing branch managers from selecting their clientele freely.

Loan Repayment by Type of Collateral

Table 17 shows the repayment status by type of collateral. About 22 percent of the number, accounting for 18.5 percent of the volume of mortgage loans, were in total or partial default by the end of August, 1989. At the same time, 45 percent of the number of crop lien (i.e., prenda) loans, accounting for 21 percent of the volume, were in default. Moreover, the slightly lower default rate of mortgage loans (by volume) cannot be interpreted as a sign of better loan recovery than for loans collateralized with a pledge on future agricultural production, since 35.5 percent of the former were not yet due by the end of August, 1989. A better indication of the repayment performance of mortgage loans may be obtained by analyzing the proportion of loans paid with and without arrears. In effect, if we analyze the repayment performance of mortgage and crop lien loans, we see that both types present a similar performance. This indicates that mortgages do not necessarily improve the repayment performance of loans for BAGRICOLA.

Table 17: Repayment Status by August 30th 1989 of the Sample of Loans Disbursed in 1987, by Type of Collateral

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Collateral	(000) Pesos	%	%	%	%	%	%
1. Mortgage	654.48	18.5	.	.	28.9	40.1	9.4
2. Crop Lien Pledges	8726.82	20.9	0.1	4.6	33.9	9.5	9.2
3. Crops in Bank Custody	178.99	8.2	14.9	.	41.3	22.3	.

Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
	Loans	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Type of Collateral	Disbursed	%	%	%	%	%	%
1. Mortgage	31	22.6	.	.	25.8	35.5	16.1
2. Crop Lien Pledges	2204	45.4	0.1	5.4	22.1	9.8	17.1
3. Crops in Bank Custody	10	20.0	10.0	.	60.0	10.0	.

Repayment Performance and Credit Evaluation

Targeted lending to select groups or activities is the most important factor explaining repayment performance at BAGRICOLA. During 1987, loans disbursed with Government and international funds forced branch managers to allocate their funds to targeted groups, regions, and agricultural activities. Targeting funds prevents two important functions of the lender:

(a) determining creditworthiness and risk among potential borrowers, and

(b) providing incentives for borrowers to repay their loans (collection activities and penalties on loan default). Poor credit evaluation and weak loan recovery efforts affect portfolio risk.

Targeted loans disbursed with Government and international funds show a remarkably poor repayment performance compared to non-targeted funds (own resources, savings accounts, rotating USAID fund). This result reflects the effect of targeting criteria on the branch manager's credit evaluation role. The credit evaluation operations carried out by branch managers to select their customers appear to be quite succesful. As shown in Table 18, the lowest default rates were recorded for loans disbursed to customers rated as excellent, while the highest default rates were recorded for new customers and customers with previous default problems.

Table 18: Repayment Status By August 30th 1989 of the Sample of Loans Disbursed in 1987, by Customer Credit Rating

A. Proportion of the Volume Disbursed

		Repayment Status of Sample of Loans					
	Volume Disbursed	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Customer Credit Rating	(000) Pesos	%	%	%	%	%	%
1. Excellent	1297.50	7.9	.	2.5	55.7	14.9	11.2
2. Very Good	1069.47	5.2	.	3.2	51.3	27.1	7.5
3. Good	1479.05	8.4	1.8	4.7	51.3	10.8	13.3
4. Fair	1631.98	17.2	0.5	2.3	17.0	3.0	4.3
5. New	3088.36	29.8	0.1	3.1	26.7	13.1	9.3
6. Defaulting	266.52	42.9	.	7.2	8.1	5.7	17.1
8. No Specified	234.02	11.9	.	38.8	12.4	5.2	0.2

B. Proportion of the Number of Loans

		Repayment Status of Sample of Loans					
	Loans	Default	In Litigation	Rescheduled	Paid with Arrears	Current	Paid without Arrears
Customer Credit Rating	Disbursed	%	%	%	%	%	%
1. Excellent	190	13.7	.	5.3	44.2	8.9	27.9
2. Very Good	140	16.4	.	6.4	29.3	17.1	30.7
3. Good	301	18.6	0.3	6.6	30.9	11.0	32.6
4. Fair	144	37.5	0.7	3.5	31.9	0.7	16.7
5. New	1209	57.7	0.2	4.7	17.0	9.8	10.5
6. Defaulting	84	52.4	.	7.1	4.8	9.5	26.2
8. No Specified	48	50.0	.	8.3	22.9	16.7	2.1

It is interesting to observe, however, that the default rates of customers classified as excellent, very good, and good are still high. This suggests that factors other than restrictions on credit evaluation contribute to the repayment problems experienced by the bank.

If we look closely at the profile of client ratings by source of funds we find that there is an apparent inconsistent criterion for evaluating loan applicants. The credit evaluation criterion for international fund applicants appears to be more relaxed than that for the bank's own-resources applicants. As shown in Table 19, more than 56 percent of internationally funded loans were granted to clients rated either excellent, very good, or good, while 45 percent of the bank's own resources were granted to these same categories. This is inconsistent, if we consider that more than 30 percent of the internationally funded loans were in actual default as of August, 1989, while 24 percent of loans made with own-resources were in partial or complete default at the time. This result suggests that branch managers may use a more relaxed credit evaluation criterion for selecting customers for internationally funded loans than when drawing on its own resources. It is *international money* and not *bank money* that is at risk. Hence, the criterion for evaluating the loan applicants for these special funds does not appear to be very strict. This is a moral hazard problem at the lender level.

If the lender adopts a more relaxed credit evaluation criterion (i.e., classifying clients as excellent, very good, and good credit risks when in fact they don't rate this classification), then it is reasonable to think that the bank's customers are able to recognize the *soft* character of these funds, as well, thereby stimulating poorer repayment performance. There exists, therefore, a possibility of a double moral hazard problem with loans disbursed with

international funds. It is also apparent that Government funds present the same double moral hazard problem.

Table 19: Profile of Borrower Credit Rating Characteristics of the Sample of Loans Disbursed in 1987, by Source of the Funds (Percentages)

	Customer Credit Rating						
	Excellent	Very Good	Good	Fair	New	Defaulting	No-Rating
Number of Loans	190	141	302	144	1212	84	49
Source of the Funds:							
Own Resources	12.47	9.32	24.93	9.18	41.23	3.70	2.60
FIDE Fund	20.00	6.67	20.00	13.33	13.33	26.67	.
International	27.33	13.66	18.01	9.94	27.33	4.97	2.48
Swine Fund	2.69	3.27	5.61	3.27	81.52	3.74	2.22
Agrarian Reform Fund	9.74	9.74	17.95	13.33	41.05	7.18	3.59
Saving Accounts	70.83	16.67	12.50	.	.	4.17	4.17
FIDA Fund	0.92	2.75	7.34	6.42	82.57	1.83	.
Other	15.15	12.12	27.27	12.12	45.45	.	.

The high default rates recorded for loans disbursed from the swine plan and FIDA fund suggest that the bank could not apply rigorous credit evaluation procedures because most of these customers were new. About 80 percent of the total number of loans disbursed with these funds were granted to new customers. This result reflects the highly restrictive (i.e., targeted) nature of these funds.

Finally, it is important to highlight the strict customer rating for loans granted with resources obtained from the savings accounts. More than 80 percent of the customers funded with this credit line were rated as excellent or very good. Obviously, this strict credit

evaluation process is reflected in the excellent repayment performance recorded for this clientele.

Summary

Overall, loans disbursed to agrarian reform borrowers presented a poorer repayment performance than loans granted to non-reform clients. The bank, in an attempt to decrease the risks and high lending costs associated with individual reform borrowers, tended to favor larger group loans in the agrarian reform portfolio. While the bank did succeed in decreasing the volume of completely defaulted loans, nevertheless the volume of partial arrears increased substantially.

One interesting finding is the poorer repayment performance of loans disbursed to borrowers with title to their land compared to occupants of public lands without title. This is a counterintuitive result. Obviously, one would expect the latter to have a poorer repayment performance than the former. This finding may be related to the low level of mortgage collateralization at the bank. More than 98 percent of all loans were granted with only a crop lien as collateral. Mortgage collateral was required for less than 2 percent of the total number of loans disbursed in 1987.

Loans disbursed to finance livestock activities presented the worst repayment performance. Activities related to modern marketing channels, such as agricultural exports and industrial food crops, presented extremely high arrear problems. More than 80 and 50 percent of the loan volume disbursed to industrial food crops and agricultural exports were paid with arrears. This repayment problem is associated with marketing problems experienced by farm-borrowers that invest in these activities. In fact, agro-industry processors and